U.S. Department of Transportation
Federal Aviation Administration

Subject:	INFORMATION: Go-Around Power/Thrust Settings on Transport Category Airplanes	Date:	August 15, 1995
From:	Manager, Transport Airplane Directorate, ANM-100	Reply to Attn. of:	
To:	Managers, All Aircraft Certification Offices		

The Transport Standards Staff recently reviewed the power setting schemes used on several transport category airplanes to satisfy the approach (§ 25.121(d) - one engine inoperative) and landing (§ 25.119 - all engines operating) climb requirements There have been some deviations from existing FAA policy that have allowed some of the airplanes to have approach climb power settings that differ from their landing climb power settings. The purpose of this memorandum is to reiterate the FAA's policy on these power/thrust ratings so that it can be appropriately applied to future foreign and domestic transport airplane certifications.

FAA policy currently requires that the approach and landing power settings be the same due to crew workload issues. As stated in the 1987 preamble for the Automatic Takeoff Thrust Control System (ATTCS) final rule (Amendment 25-62):

> *". . . current regulations preclude a higher thrust for approach climb (§ 25.121(d)) than for landing climb (§ 25.119). The workload required for the flightcrew to monitor and select from multiple inflight thrust settings in the event of an engine failure during a critical point in the approach, landing, or go-around operation is excessive."*

If the approach climb power setting is higher than the landing climb power setting, a throttle push would be required to obtain the Airplane Flight Manual performance in the event of an engine failure after an all-engines-operating go-around has been initiated. The FAA considers the need to reset the engine power/thrust setting in a high workload environment to be unacceptable.

This FAA policy on this issue differs in some respects from that of Transport Canada and the Joint Aviation Authorities (JAA). Transport Canada has recently revised their policy to state that "the FAA policy should be followed for new aircraft models." However, in the past Transport Canada has allowed different landing and approach engine power/thrust settings and will apparently continue to approve different approach and landing climb power/thrust settings for derivative or modified airplanes that were originally certified under their old policy. The JAA allow different approach and landing climb power/thrust settings to be used for both derivative and new airplane models. The FAA is pursuing harmonization of this policy through the JAA Flight Study Group.

In a related issue, the FAA has recently approved Special Conditions for two transport category airplanes which allow airplane performance credit for use of Automatic Takeoff Thrust Control Systems (ATTCS) during go-around conditions. For these airplanes, the ATTCS automatically increases the power/thrust level for a one engine-inoperative go-around, regardless of whether the inoperative engine failed during the go-around or was shut down earlier in the flight. In conjunction with this Special Condition only, the FAA has allowed different power/thrust settings for use in determining airplane performance during

approach and landing climb conditions. This FAA approval is contingent on a single go-around power setting procedure for the one-engine inoperative (approach climb) and all-engines operating (landing climb) conditions (e.g. pilot advances throttle to forward stop and the ATTCS and engine control automatically set power/thrust depending on whether an engine is inoperative or not). This methodology has been found acceptable by the FAA based on eliminating the additional crew workload associated with manually setting an infinite number of go-around power/thrust levels.

Please bring this FAA policy to the attention of the transport airplane manufacturers and the appropriate designated engineering representatives in your geographical area of responsibility. If you have any questions, please contact Mike Kaszycki at (206) 227-2137 or Don Stimson at (206) 227-1129.

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